**CLAIMS:**

1. A method of reducing an organic compound, comprising subjecting the organic compound to a yeast mediated reduction wherein the reduction is conducted in the absence of a solvent.

2. The method of claim 1, wherein the reduction is conducted in the presence of sufficient water to enable yeast mediated reduction to take place, but insufficient to provide a separate water layer.

3. The method of claim 1, wherein the organic compound is contacted with yeast with a water-to-yeast ratio of up to 1.5 ml/g.

4. The method of claim 3, wherein the water-to-yeast ratio is between 0.2 ml/g and 1.5 ml/g.

5. The method of claim 4, wherein the water-to-yeast ratio is between 0.8 and 1.2 ml/g of yeast.

6. The method of claim 1, wherein the reduction is conducted in the presence of water in an amount of 44% w/w to 55% w/w based on the weight of yeast.

7. The method of claim 1, wherein the proportion of yeast to organic compound is from 0.1 gram of yeast per mmol of organic compound, up to 50 grams of yeast per mmol of organic compound.

8. The method of claim 7, wherein the proportion of yeast to organic compound is 0.8 to 20 g/mmol.

9. The method of claim 1, wherein the reaction is carried out in non-fermenting conditions at temperatures between 0 to 50°C.

10. The method of claims 1, wherein the reaction is carried out at room temperature.

11. The method of claim 1, wherein the reaction is conducted at atmospheric pressure.

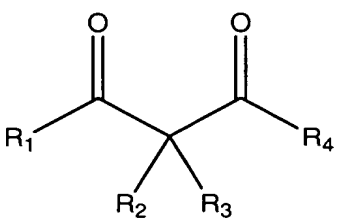
12. The method of claim 1, wherein the method comprises the steps of contacting the organic compound with the yeast and water in the absence of a solvent to form a mixture, leaving the mixture for sufficient time for the reaction to take place, adding an organic solvent to the mixture to dissolve the product of the reaction into the organic solvent, and conducting a solid/liquid separation to separate the product of the reaction from the yeast.

13. The method of claim 12, further comprising evaporating the solvent to isolate the product of the reaction.

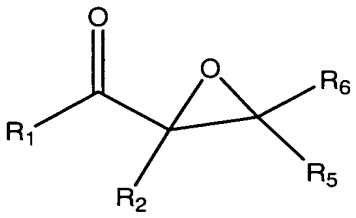
14. The method of claim 1, wherein the organic compound is selected from the group consisting of ketones, alkenes, alkynes, aldehydes, imines and hydroxamines.

15. The method of claim 1, wherein the organic compound is a compound selected from the group consisting of β-keto amides, β-keto esters, enol ethers, activated ketones and conjugated alkenes.

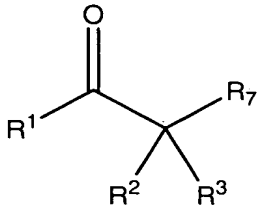
16. The method of claim 1, wherein the organic compound is a compound of Formula I, II, or III:




(I)




(II)




(III)

in which:

$R_1$ is an optionally substituted aryl group;

$R_2$, $R_3$, $R_5$ and $R_6$ are H or optionally substituted $C_1$ - $C_6$ alkyl;

$R_4$ is an optionally substituted $C_1$ - $C_6$ alkoxy, aryloxy, amino, optionally substituted di-($C_1$-$C_6$alkyl)amino, optionally substituted alkarylamino, optionally substituted $C_1$ - $C_6$ alkylamino, optionally substituted cyclic amino, such as pyrrolidino, piperidino, imidazolidinyl, piperazinyl, morpholinyl, $C_{1-6}$alkylpyrrolidino or $C_{1-6}$alkylpiperidino; and

$R_7$ is cyano; nitro; halo; OH; $NH_2$; $C_{1-6}$ alkyl substituted by OH, halo, amine, or $C_{1-6}$ alkylamino.

17. The method of claim 16, wherein $R_1$ is substituted or unsubstituted phenyl or 2-thienyl.

18. The method of claim 17, wherein the phenyl group contains one or more substituents selected from the group consisting of hydroxy, methyl, methoxy, hydroxymethyl and trifluoromethyl.

19. The method of claim 16, wherein $R_2$ is H, and $R_3$ is either H, methyl or ethyl.

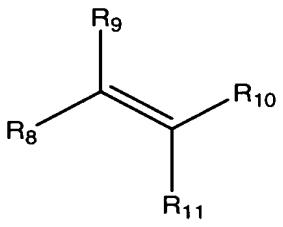
20. The method of claim 16, wherein the compound is a compound of Formula (I), and $R_4$ is selected from the group consisting of methoxy, ethoxy, $C_{1-6}$ alkylamino, $NH_2$, and di($C_1$-$C_6$alkyl)amino.

21. The method of claim 16, wherein the compound is a compound of Formula (II), and $R_5$ and $R_6$ are each H.

22. The method of claims 16, wherein the compound is a compound of Formula (III), and $R_7$ is cyano, alkylhalo or $C_{1-6}$ alkylamino.

23. The method of claim 16, wherein the compound is precursor for the synthesis of a pharmaceutical selected from the group consisting of fluoxetine, tomoxetine, duloxetine, nisoxetine, epinephrine, norepinephrine, ethylnorepinephrine, isoproterenol, isoetharine, metaproterenol, terbytaline, metaproterenol, phenylephrine, ritodrine, prenalterol, methoxamine, albuterol or a derivative thereof, salmeterol, ephedrine and phenylpropanolamine and the method further comprises the step of converting the precursor into the pharmaceutical.

24. The method of claim 1, wherein the organic compound is a compound of Formula IV:




(IV)

wherein:

$R_8$ is an optionally substituted aromatic group;

$R_9$, $R_{10}$ and $R_{11}$ are each independently selected from H, hydroxy, $C_{1-6}$alkoxy, mercapto, $C_{1-6}$ alkylthio, amino, $C_{1-6}$alkylamino, di($C_{1-6}$alkyl)amino, carboxy, $C_{1-6}$alkoxycarbonyl, $C_{1-6}$aryloxycarbonyl, carbamoyl, $C_{1-6}$alkylcarbamoyl, di-$C_{1-6}$alkylcarbamoyl, $C_{1-6}$cycloalkylcarbamoyl, $C_{1-6}$alkylsulphonyl, arylsulphonyl, $C_{1-6}$alkylaminosulphonyl, di($C_{1-6}$alkyl)aminosulphonyl, nitro, cyano, cyano-$C_{1-6}$alkyl, hydroxy$C_{1-6}$alkyl, amino-$C_{1-6}$alkyl, $C_{1-6}$alkanoylamino, $C_{1-6}$alkoxycarbonylamino, $C_{1-6}$alkanoyl, $C_{1-6}$alkanoyloxy, $C_{1-6}$alkyl, halo, halo$C_{1-6}$alkyl, or halo$C_{1-6}$alkoxy, alkoximino, hydroximino, and alkylimino.

25. The method of claim 24, wherein one of $R_9$, $R_{10}$ and $R_{11}$ is not H.

26. The method of claim 24, wherein the group $R_8$ is selected from the group consisting of phenyl, substituted phenyl, napthyl and substituted napthyl.

27. The method of claim 24, wherein $R_{10}$ and $R_{11}$ are each H, and $R_9$ is carboxy or $C_{1-6}$alkoxycarbonyl.

28. The method of claim 24, wherein $R_9$ is H or hydroxy, one of $R_{10}$ and $R_{11}$ is selected from $C_{1-6}$alkyl, and the other of $R_{10}$ and $R_{11}$ is selected from the group consisting of $C_{1-6}$alkoxycarbonyl, $C_{1-6}$aryloxycarbonyl, carbamoyl, $C_{1-6}$alkylcarbamoyl, di-$C_{1-6}$alkylcarbamoyl, $C_{1-6}$cycloalkylcarbamoyl and nitro.

29. The method of claim 24, wherein $R_9$ is hydroxy, one of $R_{10}$ and $R_{11}$ is selected from H and $C_{1-6}$alkyl, and the other of $R_{10}$ and $R_{11}$ is selected from the group consisting of cyano, $C_{1-6}$alkoxycarbonyl, $C_{1-6}$aryloxycarbonyl, carbamoyl, $C_{1-6}$alkylcarbamoyl, di-$C_{1-6}$alkylcarbamoyl, and $C_{1-6}$cycloalkylcarbamoyl.

30. The method of claim 25, wherein the compound of Formula (IV) is a precursor for the synthesis of a pharmaceutical selected from the group consisting of fluoxetine, tomoxetine, duloxetine, nisoxetine, epinephrine, norepinephrine, ethylnorepinephrine, isoproterenol, isoetharine, metaproterenol, terbytaline, metaproterenol, phenylephrine, ritodrine, prenalterol, methoxamine, albuterol or a derivative thereof, salmeterol, ephedrine and phenylpropanolamine, amphetamine or a derivative thereof, hydroxyamphetamine, methamphetamine, benzphetamine, fenfluramine, propylhexedrine, ibuprofen, naproxen, alminoprofen, fenoprofen, flurbiprofen, indoprofen, ketoprofen and suprofen, the method further comprising the step of converting the precursor into the pharmaceutical.

31. A method of synthesising a pharmaceutical compound comprising the step of subjecting a precursor to a yeast mediated reduction wherein the reduction is conducted in the absence of a solvent; and converting the product of the reduction reaction into the pharmaceutical compound.

32. The method of claim 31, wherein the pharmaceutical compound is a sympathomimetic amine, an ethyl amine, a propylamine or a propionic acid.

33. The method of claim 32, wherein the pharmaceutical compound is an arylethylamine, an arylpropylamine, or a propionic acid with a 2-aryl substitution.

**34. Product produced by the method of claim 1.**